



UNITED STATES DEPARTMENT OF COMMERCE  
Patent and Trademark Office

Address : COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231

SERIAL NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NO.
07/026,930	03/17/87	ZIMMERMAN	112741

ROBERT C. COLWELL  
TOWNSEND AND TOWNSEND  
STEUART ST. TOWER, ONE MARKET PLAZA  
SAN FRANCISCO, CA 94105

BERLEY, A EXAMINER	
ART UNIT 264	PAPER NUMBER 4
DATE MAILED: 09/06/88	

This is a communication from the examiner in charge of your application.

COMMISSIONER OF PATENTS AND TRADEMARKS

☐ This application has been examined ☒ Responsive to communication filed on 5-26-88 ☒ This action is made final.

A shortened statutory period for response to this action is set to expire 3 month(s), 0 days from the date of this letter.  
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

- |   |   |
|---|---|
| 1. <input checked="" type="checkbox"/> Notice of References Cited by Examiner, PTO-892. | 2. <input type="checkbox"/> Notice re Patent Drawing, PTO-948.                  |
| 3. <input type="checkbox"/> Notice of Art Cited by Applicant, PTO-1449                  | 4. <input type="checkbox"/> Notice of informal Patent Application, Form PTO-152 |
| 5. <input type="checkbox"/> Information on How to Effect Drawing Changes, PTO-1474      | 6. <input type="checkbox"/> _____   |

Part II SUMMARY OF ACTION

1. ☒ Claims 1-47 are pending in the application.  
Of the above, claims \_\_\_\_\_ are withdrawn from consideration.
2. ☐ Claims \_\_\_\_\_ have been cancelled.
3. ☐ Claims \_\_\_\_\_ are allowed.
4. ☒ Claims 1-47 are rejected.
5. ☐ Claims \_\_\_\_\_ are objected to.
6. ☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.
7. ☐ This application has been filed with informal drawings which are acceptable for examination purposes until such time as allowable subject matter is indicated.
8. ☐ Allowable subject matter having been indicated, formal drawings are required in response to this Office action.
9. ☐ The corrected or substitute drawings have been received on \_\_\_\_\_. These drawings are ☐ acceptable; ☐ not acceptable (see explanation).
10. ☐ The ☐ proposed drawing correction and/or the ☐ proposed additional or substitute sheet(s) of drawings, filed on \_\_\_\_\_, has (have) been ☐ approved by the examiner. ☐ disapproved by the examiner (see explanation).
11. ☐ The proposed drawing correction, filed \_\_\_\_\_, has been ☐ approved. ☐ disapproved (see explanation). However, the Patent and Trademark Office no longer makes drawing changes. It is now applicant's responsibility to ensure that the drawings are corrected. Corrections MUST be effected in accordance with the instructions set forth on the attached letter "INFORMATION ON HOW TO EFFECT DRAWING CHANGES", PTO-1474.
12. ☐ Acknowledgment is made of the claim for priority under 35 U.S.C. 119. The certified copy has ☐ been received ☐ not been received  
☐ been filed in parent application, serial no. \_\_\_\_\_; filed on \_\_\_\_\_.
13. ☐ Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.
14. ☐ Other

Art Unit 264

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless-

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 13-15 are rejected under 35 U.S.C. 102b as being clearly anticipated by Haney.

Haney discloses flex sensing means (22 and reflectors a-1), a cursor (animated figure), and cursor display means.

3. The following is a quotation of 35 U.S.C. 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) and (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

4. Claims 16-19 and 33-41 are rejected under 35 U.S.C. 103 as being unpatentable over Haney.

As to claims 16-19, the particular part of the body that is sensed is an obvious design choice since it depends upon what the user wants to animate.

Art Unit 264

As to claims 33-37, Haney uses orientation and flex sensing means (22 and reflective elements a-1) which can obvious be fixed to the display structure and computer, thus sensing would have been accomplished relative to the display as do Applicants since their sensors (24) are fixed to the display.

As to claims 38-41, note the discussion of clams 16-19 above.

5. Claims 1, 2, 3, 8, 10, 11, 16-23 and 38-45 are rejected under 35 U.S.C. 103 as being unpatentable over Haney as applied to claims 19 and 41 above, and further in view of Grimes and Lefkowitz.

As to claim 1, the reflectors or sensors of Haney can be applied to a glove as taught by Grimes, who teaches applying sensors to a glove. The reflectos provide response for both position sensing means and gesture sensing means and transmit signals to receiving means (22). Grimes is cited to teach using sensors on a glove for sensing flexing of the hand to indicate hand gestures, Figure 17. Haney teaches that if the positions of a body can be sensed the they can be displayed, thus making it obvious to sense hand movement as taught by Grimes and the movement can be used for example as inputs to the device to Haney to animate the gestures of Figure 17 of Grimes.

Lefkowitz is cited to teach the sensing of a user's hand to control a object on the display. Thus further making it obvious to use the hand of the operator as the part of the body being sensed.

As to claim 10, the sensors to Grimes could have likewise been used in addition to the sensing means of Haney as modified since they can represent the gestures of Figure 17 which are indicative of flexure, and these sensors require a cable connection.

6. Claims 4-7 and 9 are rejected under 35 U.S.C. 103 as being unpatentable over Haney in view of Grimes and Lefkowitz as applied to claims 1 and 2 above, and further in view of Herrington and Davison.

The sensor means of Haney senses both the gesture and relative position, and any other well known means for doing the same can be used. Thus Herrington and Davison are cited to teach the conventional use of ultrasonics to provide relative positional information which could have been used in the device to Haney as modified.

7. Claim 12 is rejected under 35 U.S.C. 103 as being unpatentable over Haney in view of Grimes and Lefkowitz as applied to claim 1 above, and further in view of King et al.

As pointed out above any known position sensing means can be used in the device to Haney as modified thus it would have been obvious to have used the optical transmitting and receiving means of King et al.

8. Claims 24-32 and 46-47 are rejected under 35 U.S.C. 103 as being unpatentable over Haney as applied to claims 13-19 and 33-41 and Haney in view of Grimes as applied to claim 45 above, and further in view of Lefkowitz and Baer et al.

Note the discussion of Haney above who discloses position sensing means (22 and reflectors a-1) and interface means (12, 20). The device to Haney is not used in an interactive environment, but Lefkowitz provides the motivation to use the device of Haney in an interactive device, since Lefkowitz teaches that detection of a body part can be used to control an object that interacts with virtual objects. Baer et al is simply cited to show the circuitry for indicating contact between controlled objects and virtual objects to manipulate the same.

As to the remaining claims note the discussion above with regard to claims 13-19 and 33-41.

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Blair et al. show the use of ultrasonics for interaction with a display and Laenger et al show the use of an electromechanical hand.

10. Applicant's arguments filed May 26, 1988 have been fully considered but they are not deemed to be persuasive.

In view of Applicants' amendment to claim 1 and submission of new claims 13-47 a new art rejection has been applied and thus Applicants' arguments are moot

11. Applicant's amendment necessitated the new grounds of rejection. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP 706.07(a).

Applicant is reminded of the extension of time policy set forth in 37 CFR 1.136(a). The practice of automatically extending the shortened statutory period an additional month upon the filing of a timely first response to a final rejection has been discontinued by the Office. See 1021 TMOG 35.

Serial No. 026,930

-6-

Art Unit 264


A SHORTENED STATUTORY PERIOD FOR RESPONSE TO THIS FINAL ACTION IS SET TO EXPIRE THREE MONTHS FROM THE DATE OF THIS ACTION. IN THE EVENT A FIRST RESPONSE IS FILED WITHIN TWO MONTHS OF THE MAILING DATE OF THIS FINAL ACTION AND THE ADVISORY ACTION IS NOT MAILED UNTIL AFTER THE END OF THE THREE-MONTH SHORTENED STATUTORY PERIOD, THEN THE SHORTENED STATUTORY PERIOD WILL EXPIRE ON THE DATE THE ADVISORY ACTION IS MAILED, AND ANY EXTENSION FEE PURSUANT TO 37 CFR 1.136(a) WILL BE CALCULATED FROM THE MAILING DATE OF THE ADVISORY ACTION. IN NO EVENT WILL THE STATUTORY PERIOD FOR RESPONSE EXPIRE LATER THAN SIX MONTHS FROM THE DATE OF THIS FINAL ACTION.

12. Any inquiry concerning this communication should be directed to Alvin Oberley at telephone number 703-557-3350.

A. Oberley:vlw

8-18-88

703-557-3350

  
JOHN W. CALDWELL, SR.  
SUPERVISORY PATENT EXAMINER  
GROUP 260